

## **REMARKS**

The Applicant requests that the above Amendment be entered and the application examined as amended, and in view of the remarks below.

By this Amendment, new claims 53-61 were introduced. The addition of “new matter” has been scrupulously avoided.

Claims 1-61 are now pending in this application.

### **1. Response to Anticipation Rejection based upon Ignatowicz**

In paragraphs 2 and 3 on pages 2 and 3 of the Office Action, the Patent Office rejected claims 1, 2, 36-38, 40, 42, 43, and 45 under 35 USC 102(b) as anticipated by U.S. Patent 5,653,537 of Ignatowicz, et al. (herein “Ignatowicz”). However, the Applicant respectfully submits that these rejections are inappropriate and requests that they be reconsidered and withdrawn.

The Applicant’s undersigned Agent typically refers to the MPEP for guidance when considering whether an anticipation rejection is appropriate. As noted in the earlier Response filed on March 28, 2006, MPEP § 2131 defines the conditions under which an anticipation rejection is appropriate. (This citation is not repeated here for the sake of brevity.) Specifically, the Applicant submits that Ignatowicz does not include “each and every element” of the invention recited in these claims, nor does Ignatowicz show the invention “in as complete detail” as these claims, as the MPEP guidelines require.

With respect to claim 1, in making this rejection the Patent Office asserts that Ignatowicz discloses a sighting device for “a radiometer...for visibly marking a measuring surface (10).” However, the Applicant’s review of Ignatowicz indicates that Ignatowicz discloses nothing of the kind. A close examination of Ignatowicz clearly shows that Ignatowicz does not visibly mark the surface (10) of a measuring surface as claimed, but simply manipulates the light “radiated from the object 10,” for example, see Ignatowicz 4:18-19.

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In contrast, the invention recited in claim 1, provides a light source “for emitting a visible light beam marking said measuring surface.” [Emphasis added.] Though this aspect of the invention is described repeatedly throughout the instant application, Figures 1-5 are useful in clearly illustrating the “visible light beam marking” of the claimed invention. As shown in each these figures, a light source 6 directs a visible beam a light though various means toward the measuring surface (not shown). This measuring surface is the surface from which IR radiation is detected and directed to radiometer 2. Again, this illumination or marking of the measuring surface is typical of the present invention recited in claim 1.

Contrary to the Patent Office’s assertions, Ignatowicz discloses no such illumination or marking. As shown most clearly in Figure 1 of Ignatowicz, and described in column 4, Ignatowicz detects radiation from surface 10, passes it through lenses 22, 24 toward observer 16, and reflects a portion of the radiation with mirror 40 through fiber optic 76 to detector 200. Contrary to the present invention, no visible light sources are provided by Ignatowicz, thus no visible light sources for illuminating surface 10 are provided by Ignatowicz. Lacking such a visible light source, or any teaching suggesting such a light source, Ignatowicz cannot anticipate claim 1.

In supporting its position, the Patent Office cites the passage appearing at column 4, lines 8-21 of Ignatowicz for a disclosure of the emitting of visible light for marking the surface being examined. However, close examination of this passage indicates that, in this passage, Ignatowicz simply describes the types of radiation that can be emitted from the object 10 that can be captured using the disclosed invention. The Applicant submits that there is absolutely no teaching or suggestion whatsoever in Ignatowicz that visible light of any kind can be directed on the object 10, as in aspects of the claimed invention.

Moreover, Ignatowicz also fails to teach or disclose a piezoactuator, as recited in claim 1, for controlling the direction of the missing light beam. In the above-referenced Office Action, the Patent Office identifies “piezoelectric optic chopper 100” of Ignatowicz as the claimed piezoactuator. As illustrated in Figures 1-4 of Ignatowicz and described at 5:63-66:

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Before the infrared light enters the field stop 60 or the fiber optic cable 76, a chopper 100, 100' is used to continuously intermittently cut off the infrared light being detected by the detector portion 200. [5:63-66, Emphasis added]

That is, as clearly stated by Ignatowicz, the disclosed invention does not control the direction of the “visible light beam” which marks the measured surface, as claimed, but “cut[s] off” the infrared light beam directed toward the detector 200. Again, Ignatowicz does not disclose the invention recited in claim 1. Again, the Applicant submits that Ignatowicz does not anticipate the invention recited in claim 1. The Applicant respectfully requests that this rejection be reconsidered and withdrawn.

With respect to the rejections of dependent claim 2, the Applicant submits that this claim is not anticipated by Ignatowicz for the same reasons that claim 1, from which it depends, is not anticipated. The Applicant respectfully request that this rejection also be reconsidered and withdrawn.

With respect to independent claim 36, the Applicant submits that claim 36 is not anticipated by Ignatowicz for the same reasons that claim 1 is not anticipated by Ignatowicz. Again, Ignatowicz does not disclose or suggest the use of any visible light sources for marking the measured surface, as claimed.

Moreover, since Ignatowicz does not disclose a visible light source, the missing visible light source cannot provide “a visible indication” based upon the reading of the detector. The Applicant respectfully requests that this rejection of claim 36 be reconsidered and withdrawn.

With respect to the rejections of dependent claims 37, 38, 40, 42, and 43, the Applicant submits that these claims are not anticipated by Ignatowicz for the same reasons that claim 36, from which they depend, is not anticipated. In addition, aspects of the dependent claims are not disclosed or suggested by Ignatowicz. For example, with respect to claim 37, Ignatowicz -- lacking a teaching or suggestion for a source of visible light -- also fails to teach the use of a visible light “deviating means” as recited in claim 37. The Applicant respectfully requests that these rejections be reconsidered and withdrawn.

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With respect to independent claim 45, the Applicant submits that claim 45 is also not anticipated by Ignatowicz for the same reasons that claim 1 is not anticipated by Ignatowicz. Again, Ignatowicz does not disclose or suggest the use of any visible light sources for marking the measured surface, as claimed. The Applicant respectfully requests that this rejection of claim 45 as anticipated by Ignatowicz be reconsidered and withdrawn.

## **2. Response to Anticipation Rejection based upon McKinley**

In paragraph 4 bridging pages 3 and 4 of the Office Action, the Patent Office rejected claim 51 under 35 USC 102(b) as anticipated by EP 867,699 of McKinley, et al. (herein “McKinley”). However, the Applicant respectfully submits that this rejection is inappropriate and requests that it be reconsidered and withdrawn.

The Applicant submits that McKinley is the EP patent corresponding to US Patent 5,368,392 of Hollander, et al., which is also of record in this case.

Contrary to the accepted requirements for an anticipation rejection outlined in the MPEP, the Applicant submits that McKinley does not include “each and every element” of the invention recited in claim 51, nor does McKinley show the invention “in as complete detail” as this claim. Specifically, McKinley does not provide any teaching or suggestion of indicating a state or temperature change by the marking provided on the measured surface. For example, in one aspect of the instant invention, the marking on the measured surface provided by the visible light may be flashed on and off to indicate that, for example, a temperature range has been exceeded. The Applicant respectfully requests that this rejection of claim 51 as anticipated by McKinley be reconsidered and withdrawn.

## **3. Response to Obviousness Rejection based upon Ignatowicz and Prekel**

In paragraphs 5 -7 on pages 4 and 5 of the Office Action, the Patent Office rejected claims 3 and 4 under 35 USC 103(a) as obvious in view of Ignatowicz and U.S. Patent 5,841,138 of Prekel, et al. (herein “Prekel”). However, the Applicant respectfully submits that these rejections are inappropriate and requests that they be reconsidered and withdrawn.

Since claims 3 and 4 are dependent upon claim 1, claims 3 and 4 are patentable for the same reasons that claim 1, from which they depend, is patentable, as discussed above. Moreover, Prekel does not provide the teachings missing from Ignatowicz, the Applicant submits that the inventions recited in claims 3 and 4 are not obvious in view of Ignatowicz and Prekel. The Applicant respectfully submits that these rejections be reconsidered and withdrawn.

**4. Response to Obviousness Rejection based upon Ignatowicz and McKinley**

In paragraph 8 on pages 5 and 6 of the Office Action, the Patent Office rejected claims 7, 8, and 9 under 35 USC 103(a) as obvious in view of Ignatowicz and McKinley. However, the Applicant respectfully submits that these rejections are inappropriate and requests that they be reconsidered and withdrawn.

Again, since claims 7-9 are dependent upon claim 1, claims 7-9 are patentable for the same reasons that claim 1 is patentable, as discussed above. Moreover, since McKinley does not provide the teachings missing from Ignatowicz, the Applicant submits that the inventions recited in claims 7-9 are not obvious in view of Ignatowicz and McKinley. The Applicant respectfully submits that these rejections be reconsidered and withdrawn.

**5. Response to Obviousness Rejection based upon Ignatowicz and Brandli**

In paragraph 9 on pages 6 and 7 of the Office Action, the Patent Office rejected claims 12 and 46 under 35 USC 103(a) as obvious in view of Ignatowicz and U.S. Patent 3,924,469 of Brandli, et al. (herein “Brandli”). However, the Applicant respectfully submits that these rejections are inappropriate and requests that they be reconsidered and withdrawn.

Again, the Applicant’s undersigned agent typically refers to the MPEP for assistance in determining when an obviousness rejection is appropriate. As discussed, in the previous response, Section 2143.10 of the MPEP provides guidelines concerning the appropriateness of combining the teachings of prior art references. (These guidelines are omitted here for the sake of brevity.) The Applicant submits that neither Ignatowicz nor Brandli provide any teaching, suggestion, or motivation to combine their teachings to produce the invention recited in claims 12 or 36. In addition, the Applicant submits that the nature of the problem to be solved “as a

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whole" by the present invention does not suggest that the teachings of Ignatowicz and Brandli be combined.

With respect to claims 12 and 46, the Applicant submits that Brandli does not provide the teachings missing from Ignatowicz discussed above. That is, Brandli, similar to Ignatowicz, does not illuminate the surface being measured. Moreover, Brandli does not project any radiation to the surface being measured - the passage in Brandli cited by the Patent Office Examiner discusses a geometric projection only, not the projection of radiation of any kind. Also, the Applicant submits that the "heating" coil 7 of Brandli is unrelated to the claimed positioning coil and magnet.

The aspect of the invention recited in claims 12 and 46 is most clearly illustrated in Figure 24 of the present application which shows coil 238 mounted to beam arm 231 and magnet 239 positioned to move coil 238 when a current is passed through coil 238. The Patent Office acknowledges that Ignatowicz does not include an actuator having an electric coil to effect actuation. The Patent Office relies on Brandli to provide to provide this missing teaching, specifically, the Patent Office cites the passage at 3:44-65 of Brandli. However, close examination of this passage clearly shows the heating coil 7 of Brandli has nothing whatsoever to do with the movement of any actuators in Brandli. As described at 3:60-65:

A heating coil 7 surrounds the periphery of the compensating radiator 1 for heating the latter, its power supply being controlled by an electronic control circuit, known per se and therefore not illustrated here, which receives the output signal from the infrared detector 5 in the form of a controlling pulse. [3:60-65, Emphasis added.]

Contrary to the invention recited in claims 12 and 46, the heating coil 7 of Brandli does not cooperate with a magnet (which is also missing from Ignatowicz and Brandli) to vary the direction of the light beam as claimed. Moreover, there is no suggestion whatsoever in Ignatowicz or Brandli that a coil/magnetic combination can or should be used to cause movement of anything.

The Applicant respectfully requests that these rejections of claims 12 and 46 as obvious in view of Ignatowicz and Brandli be reconsidered and withdrawn.

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In the third line of page 7 of the Office Action, the Patent Office appears to assert that Brandli teaches “the projection of the ellipse” to support an argument that Brandli somehow projects a light beam on to the surface being measured. The Applicant respectfully submits that this is a totally erroneous interpretation of Brandli, which close examination of Brandli will reveal. In column 3, lines 41-46, Brandli states:

The preferred configuration of the plate-like reflective member 2 is elliptical with the major axis of the ellipse projected onto the plane of the drawing. The projection of the ellipse to the surface of object 4 to be measured is approximately circular, like the projection onto any plane at a right angle thereto. (3:41-46, Emphasis added.)

However, contrary to the comments made by the Patent Office, the recited “projection” is simply a geometric construct, introduced to characterize the shape of the surface exposed to the elliptical “reflective member 2.” As described in Brandli, radiation from surface 4 is reflected to conduit 6 and to detector 5. Contrary to the invention recited in claims 12 and 46, no radiation of any kind is directed toward surface 4.

## **6. Response to Obviousness Rejection based upon Ignatowicz, Brandli, and Prekel**

In paragraph 10 on pages 7, 8, and 9 of the Office Action, the Patent Office rejected claims 13 and 14 under 35 USC 103(a) as obvious in view of Ignatowicz, Brandli, and Prekel. However, the Applicant respectfully submits that these rejections are inappropriate and requests that they be reconsidered and withdrawn.

Again, since claims 13 and 14 are dependent upon claim 12, claims 13 and 14 are patentable for the same reasons that claim 12 is patentable, as discussed above. Moreover, since Prekel does not provide the teachings missing from Ignatowicz and Brandli, the Applicant submits that the inventions recited in claims 13 and 14 are not obvious in view of Ignatowicz, Brandli, and Prekel. The Applicant respectfully submits that these rejections be reconsidered and withdrawn.

**7. Response to Obviousness Rejection based upon Ignatowicz, Brandli, and McKinley**

In paragraph 11 on pages 9 and 10 of the Office Action, the Patent Office rejected claims 17-20 under 35 USC 103(a) as obvious in view of Ignatowicz, Brandli, and McKinley. However, the Applicant respectfully submits that these rejections are inappropriate and requests that they be reconsidered and withdrawn.

Again, since claims 17-20 are dependent upon claim 12, claims 17-20 are patentable for the same reasons that claim 12 is patentable, as discussed above. Moreover, since McKinley does not provide the teachings missing from Ignatowicz and Brandli, the Applicant submits that the inventions recited in claims 17-20 are not obvious in view of Ignatowicz, Brandli, and McKinley. The Applicant respectfully submits that these rejections be reconsidered and withdrawn.

**8. Response to Obviousness Rejection based upon Ignatowicz and Prekel**

In paragraph 12 on pages 10 and 11 of the Office Action, the Patent Office rejected claims 28, 29, and 48 under 35 USC 103(a) as obvious in view of Ignatowicz and Prekel. However, the Applicant respectfully submits that these rejections are inappropriate and requests that they be reconsidered and withdrawn.

With respect to claims 28 and 48, first, as discussed above in subsection 1, Ignatowicz fails to provide any teaching for marking or illuminating a measuring surface with a visible light source. Prekel does not provide the teachings missing from Ignatowicz. In fact, the Applicant respectfully submits that not only does Prekel not provide the missing teachings, but Prekel is not analogous art to Ignatowicz, and thus is improperly combined with Ignatowicz.

As described by its title and abstract, Prekel discloses a method and apparatus for “non-destructive workpiece testing.” As such, Prekel has nothing whatsoever to teach Ignatowicz, which lies in the art of IR radiometers. Section 2141.01(a) of the MPEP provides the following

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guidelines concerning what can be considered analogous art when making a rejection pursuant to 35 USC §103(a):

The examiner must determine what is “analogous prior art” for the purpose of analyzing the obviousness of the subject matter at issue. “In order to rely on a reference as a basis for rejection of an applicant’s invention, the reference must either be in the field of applicant’s endeavor or, if not, then be reasonably pertinent to the particular problem with which the inventor was concerned.” *In re Oetiker*, 977 F.2d 1443, 1446, 24 USPQ2d 1443, 1445 (Fed. Cir. 1992). See also *In re Deminski*, 796 F.2d 436, 230 USPQ 313 (Fed. Cir. 1986); *In re Clay*, 966 F.2d 656, 659, 23 USPQ2d 1058, 1060-61 (Fed. Cir. 1992) (“A reference is reasonably pertinent if, even though it may be in a different field from that of the inventor’s endeavor, it is one which, because of the matter with which it deals, logically would have commanded itself to an inventor’s attention in considering his problem.”); and *Wang Laboratories Inc. v. Toshiba Corp.*, 993 F.2d 858, 26 USPQ2d 1767 (Fed. Cir. 1993). [Emphasis added.]

The Applicant submits that not only is Prekel a different field, but the art of Prekel -- non-destructive testing -- would not commend itself to an inventor’s attention considering the art of the present invention -- IR radiometry.

As discussed in its Background section, contrary to aspects of the present invention, Prekel discloses a device for generating temperature on a surface.

Nondestructive and contact-free testing of material by means of thermal excitation of surfaces, applying intensity modulated radiation and evaluating the course in time of the heat radiation emitted by the surface, is a process which has proved successful for some years. The underlying principle, also known as photothermal radiometry (PTR), is based on the generation of temperature waves in a specimen to be tested, such waves spreading in a manner which is characteristic of the condition of the material of the specimen and being diffused or reflected at thermal inhomogeneities, such as layer boundaries, delaminations, fissures, pores, etc., in a way similar to ultrasonic waves. [1:20-32, Emphasis added.]

In contrast, aspects of the present invention are intended to detect the temperature of the surface being examined, such that any temperature generation would interfere with that desired intent. Again, the Applicant submits that the combination of the teachings of Ignatowicz and Prekel is inappropriate. For this reason alone, this rejection of claims 28 and 48 is inappropriate.

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Even if proceeding *arguendo* with the supposition that the teachings of Ignatowicz and Prekel can be combined, which they cannot, the claimed inventions recited in claims 28 and 48 do not ensue. Again, as noted above in subsection 1, Ignatowicz does not mark or illuminate any surfaces. Further, as noted by the Patent Office, Ignatowicz does not disclose a sectorized mirror, and relies on Prekel to provide this teaching, specifically "mirror 22" of Prekel. However, contrary to the claimed invention, mirror 22 of Prekel does not provide "a stepwise change in direction" of the light beam as claimed. As clearly stated in Prekel, in the very lines cited by the Patent Office,

At its periphery, the mirror 22 is formed with recesses or cuts, and it is either rotated continually or moved back and forth in oscillating motions between two defined angular positions. The excitation beam S hitting the mirror [22] surface is transmitted, if it happens to meet a recess, or it is deflected by reflection, all depending on the position of the mirror. In a preferred embodiment the mirror is round and segments are cut out of its circumference at regular intervals. [4: 14-22, Emphases added.]

That is, contrary to the present inventions recited in claim 28 and 48, the mirror 22 of Prekel simply "transmits" or "reflects" beam S and does not provide a "a stepwise change in direction" of beam S as recited in these claims. There is no stepwise change in direction of the beam S. The Applicant submits that even if combining the teachings of Ignatowicz and Prekel is inappropriate, the inventions claims 28 and 48 are not provided. The Applicant respectfully requests that these rejections be reconsidered and withdrawn.

With respect to the rejections of dependent claim 29, the Applicant submits that this claim is not obvious in view of Ignatowicz and Prekel for the same reasons that claim 28, from which it depends, is not obvious. The Applicant respectfully request that this rejection also be reconsidered and withdrawn.

## **9. Response to Obviousness Rejection based upon Ignatowicz and McKinley**

In paragraph 13 on page 11 of the Office Action, the Patent Office rejected claim 39 under 35 USC 103(a) as obvious in view of Ignatowicz and McKinley. However, the

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Applicant respectfully submits that these rejections are inappropriate and requests that they be reconsidered and withdrawn.

Since claim 39 is dependent upon claim 36, claim 39 is patentable for the same reasons that claim 36 is patentable, as discussed above in subsection 1. Moreover, since McKinley does not provide the teachings missing from Ignatowicz, the Applicant submits that the invention recited in claim 39 is not obvious in view of Ignatowicz and McKinley. The Applicant respectfully submits that these rejections be reconsidered and withdrawn.

#### **10. Response to Obviousness Rejection based upon Ignatowicz and Hollander**

In paragraph 14 on pages 11 and 12 of the Office Action, the Patent Office rejected claim 41 under 35 USC 103(a) as obvious in view of Ignatowicz and U.S. Patent 6,377,400 of Hollander, et al. [herein “Hollander”]. However, the Applicant respectfully submits that these rejections are inappropriate and requests that they be reconsidered and withdrawn.

Since claim 41 is also dependent upon claim 36, claim 41 is patentable for the same reasons that claim 36 is patentable, as discussed above in subsection 1. Moreover, since Hollander does not provide the teachings missing from Ignatowicz, the Applicant submits that the invention recited in claim 41 is not obvious in view of Ignatowicz and Hollander. The Applicant respectfully submits that these rejections be reconsidered and withdrawn.

#### **11. Allowable Subject Matter**

In paragraph 15 on page 12 of the Office Action, the Patent Office deemed claims 21-27, 30-35, 44, 47, 49, 50, and 52 allowed. The Applicant acknowledges with appreciation the allowance of these claims.

In paragraph 16 on page 16 of the Office Action, the Patent Office deemed claims 5, 6, 10, 11, 15, 16, and 35 allowable if rewritten in independent form. The Applicant acknowledges with appreciation the recognition of the allowability of these claims, but as described above, the

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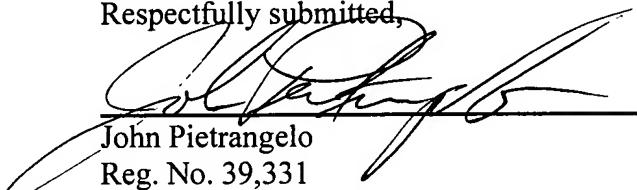
Applicant believes that the Applicant is entitled to broader protection than is provided by these claims.

**14. Conclusion**

The Applicant believes that the above Amendment and Remarks overcome the rejections of the subject Office Action and places the application in condition for allowance. An early and favorable action on the merits of the application is requested.

If a telephone conference would be of assistance in advancing prosecution of the subject application, the Applicant's undersigned Agent invites the Examiner to telephone him at the number provided.

Respectfully submitted,



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